

EXHIBIT A

To Carbo-load or not to Carbo-load? *That is the Question...*

Phillip Whitten, Ph.D.

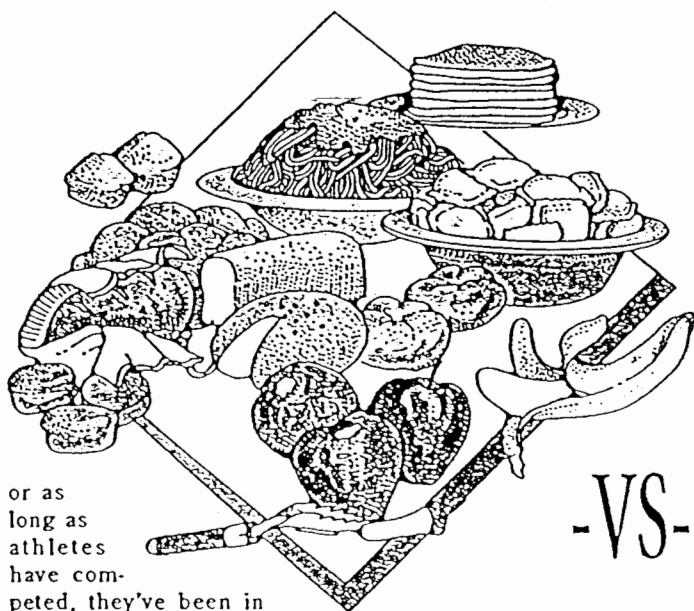
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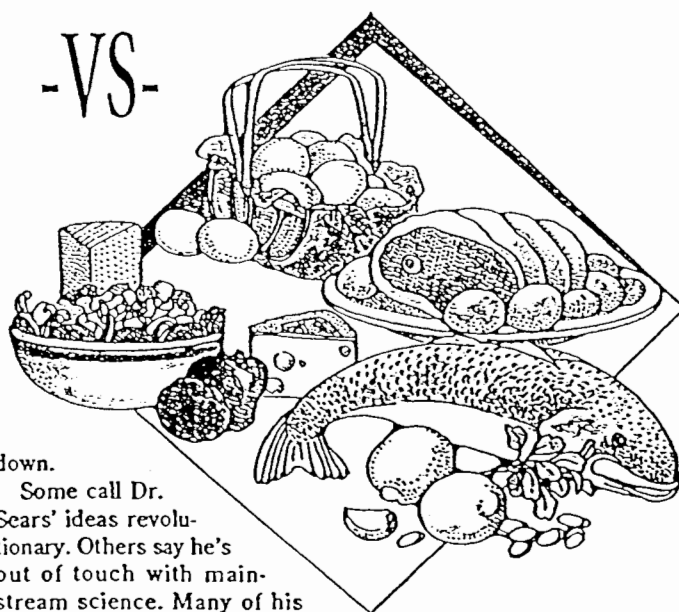
For as long as athletes have competed, they've been in search of the ideal performance diet. And for years, there have been researchers, scientists and assorted self-professed experts who claim to have found the "holy grail" that can unlock the untapped athletic powers that lie within every competitor.

The ancient Greek Olympians ate lion meat because they thought, by doing so, they would inherit the lion's strength and ferocity. Fortunately, as the centuries elapsed, our approach to performance nutrition has grown somewhat more sophisticated. When the modern Olympic format was introduced at the end of the 19th century, high-protein diets were considered sure-fire methods to boost strength and endurance. As late as the 1960s, that remained the prevailing view. But gradually, that point of view changed, and by the 1970s carbohydrates had taken center stage in the sports nutrition drama.

Today, many sports nutrition experts advise athletes to eat low-fat, high-carbohydrate diets for optimum energy, endurance, and to develop lean body mass.

But before you run out to load up on pasta, you might want to learn more about one of the newest – and more controversial – approaches to performance enhancement through diet. Developed by Dr. Barry Sears, a biochemist and expert on the hormonal effects of food, this approach has been lauded by some people as a theory that may turn the science of sports nutrition upside

-VS-



down.

Some call Dr. Sears' ideas revolutionary. Others say he's out of touch with mainstream science. Many of his ideas run completely counter to the conventional sports nutrition wisdom. He'll tell you that a high carbohydrate diet will virtually guarantee a reduced performance. He scoffs at the new dietary guidelines recommended by the United States Food and Drug Administration (FDA). What's more, he's even bold enough to claim that his dietary program can give an athlete more lean muscle mass, power, and endurance than any performance enhancing drug ever will. It sounds too good to be true.

There's just one catch that keeps athletes and nutrition experts from dismissing Dr. Sears altogether—his

By
Phillip
Whitten

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Stanford coaches Richard Quick (left) and Skip Kenney attribute their teams' remarkable success in 1992 to their use of the Eicotec diet.

theory appears to work.

STANFORD'S SUCCESS

Richard Quick and Skip Kenney, head women's and men's swimming coaches at Stanford University, respectively, began implementing Sears' diet theories and products with their teams two years ago. Both coaches now firmly believe that Sears' system had a significant impact on their teams' remarkable 1992 performances that included both NCAA team titles, and seven Olympic gold medals.

"I don't think anyone imagined those types of team performances were possible," said Quick. "From top to bottom, our teams performed well beyond our expectations."

"Sure, there's a great amount of talent among those



Photo by Rod Searcey

swimmers. But we really didn't change anything in terms of our approach to training and conditioning from what we had done in the past—except for Barry Sears' diet program. And I am convinced that his program was the difference in helping us take our performance to a higher level." (For further information about how the Stanford University swim teams used the Eicotec diet to achieve their phenomenal success, see "Stanford's Secret Weapon," in the March issue of *Swimming World*.)

WHO IS BARRY SEARS?

A former research scientist at the Boston University School of Medicine and the Massachusetts Institute of Technology, Sears holds 12 U.S. patents. He is the president of Surfactant Technologies, Inc. (STI), based in Marblehead, Massachusetts. STI operates (among other divisions) Eicotec, which develops food products targeted at the sports nutrition market.

Sears' professional background includes development of sophisticated drug delivery systems for cancer treatment, and research in the role of lipids (fats) in atherosclerosis.

"I actually started working in this area because of my interest in cardiovascular disease treatment," he explained. "As my research progressed, I realized that this dietary technology would have a number of applications, athletic performance enhancement being one of the most visible," said Sears. "I'm convinced that dietary endocrinology holds the key to athletic performance for the 21st century."

DIETARY ENDOCRINOLOGY

So just what is "dietary endocrinology"? According to Sears, food has a tremendous impact on the complex hormonal systems that help control a wide variety of actions within the body, from maintaining blood sugar levels, to controlling the percentage of body fat, to muscle development and recovery after exercise. If you can understand the effects food (hence the word "dietary") has on the hormonal system (endocrinology is the study of hormones), you can harness and control the huge reserve of power within the body that can impact athletic performance.

"Food is potentially one of the most powerful drugs known to humanity," states Sears. "But you have to treat food like a drug, and you must be consistent. To really tap into the hormonal systems controlled by food, you have to eat the perfect ratio of protein, carbohydrate, and fat at every meal. That's the trick."

And that's where Sears believes most athletes are making a huge mistake.

THE IDEAL BALANCE?

Sears says the best performance diet consists of no more than 40 percent of one's total calories from carbohydrate, with 30 percent from protein, and 30 percent from fat.

Just how much of each type of food should an athlete eat? Sears begins with the daily protein requirements of each athlete, which depend on his or her lean body mass and activity levels. After the athlete's protein requirements are determined, the carbohydrate and fat amounts for each meal are set relative to the protein. Based on total food intake, Sears' program turns out to be a balanced, protein-adequate, low-fat, and low calorie diet that, he claims, generates consistent hormonal responses. The extra calories that an athlete needs come from his or her own stored body fat.

"You might want to reconsider before loading up on pasta meals during training or the nights before competitions," advises Sears. "High carbohydrate meals are a sure-fire means to put your body in an inefficient mode whenever you jump into the pool."

"The constant stimulation of insulin secretion caused by a high carbohydrate diet ultimately will reduce the benefits of a consistent high-intensity workout program," says Sears. "You erase some of the positive gains you make in practice. Carbo-loading is a virtual guarantee of reduced performance."

"It's really a shame, because too much of sports nutrition these days is geared towards the quick fix, the energy boost, and it just doesn't work," laments Sears. "The real goal of sports nutrition should be directed toward

understanding the hormonal effects that are controlled by the diet, and how these effects can be superimposed upon the hormonal adaptations that come from physical training."

Sears bases his recommended 40-30-30 ratio on the two hormone systems that are totally controlled by the diet: eicosanoids and insulin.

GOOD AND BAD EICOSANOIDS

What, you may ask, are eicosanoids? Bear with me and I'll explain. Eicosanoids, which ultimately come from fat in the diet, are the primary hormones that control the cardiovascular and immune systems. This was recognized in 1982, when the Nobel Prize in Medicine was awarded for the early discoveries on the role eicosanoids play in human disease. For athletes, eicosanoids determine the rates of oxygen transfer to muscle cells and the rates of secretion of other hormones, such as human growth hormone (hGH), as a response to exercise.

There are over one hundred known eicosanoids. Some of them affect the body in a positive way—such as decreasing blood pressure, decreasing pain, and bolstering the immune system. Others have opposite, negative effects, such as increasing blood pressure, promoting pain, and depressing the immune system. Obviously, you want to keep the relative number of these negative or "bad" eicosanoids down whenever possible.

Dr. Barry Sears, a biochemist, believes that the key to athletic performance lies in the body's hormonal responses to the food we eat.



THE INSULIN-GLUCAGON SYSTEM

What ultimately determines whether "good" or "bad" eicosanoids are produced is the other hormonal system directly affected by the diet: insulin. Continued secretion of insulin (caused by a high carbohydrate diet) increases the production of "bad" eicosanoids. It is these "bad" eicosanoids that compromise athletic performance.

Every time food is consumed, the levels of insulin and its counter regulatory hormone, glucagon, are altered for a four to six hour period. The secretion of these hormones is controlled by the ratio of protein to carbohydrate you eat in that particular meal. The balance between these two hormones tells your body whether to use the incoming calories for energy or whether to convert them to fat and store them as body fat. The balance between the two hormones also determines whether you make more "good" or "bad" eicosanoids.

I'm convinced that dietary endocrinology holds the key to athletic performance for the 21st century.

-Dr. Barry Sears

Carbohydrate triggers the release of insulin. The more insulin you produce, the more you store body fat. Insulin also lowers the level of blood sugar required for proper brain function. The brain's response to a drop in blood sugar is mental fatigue and sluggishness, and a craving for more carbohydrates. Eating more carbohydrates will increase blood sugar levels, but only temporarily. Thus, the cycle repeats itself.

Protein, on the other hand, stimulates glucagon release. Glucagon has the opposite effect of insulin. It causes the body to burn stored fat for energy—a virtually unlimited source of energy even in the slimmest athletes. This maintains blood sugar levels within a narrow range, controlling the feeling of hunger and dramatically reducing mental fatigue.

IN THE "ZONE"

The cumulative, adaptive effect of a dietary program that controls these hormonal responses, Sears says, is that an athlete will find his or her body firing perfectly on all cylinders, a phenomenon Sears feels accurately describes that elusive "zone" that every athlete seeks.

"The zone is when everything is just right, when an athlete is at his or her peak," describes Sears. "A lot of athletes have experienced this feeling. When you're on a run and you feel just awesome, or you're doing a set in the pool and holding incredible intervals, or you're playing a game and you're a notch above everyone else. That's being in the zone."

"Basically, there are three ways to reach the zone. You can get there by chance, which happens on that day when you haven't done anything special, but you just feel like you can beat the world. Second, you can force yourself into the zone like Ben Johnson or the East German swimmers by using performance enhancing drugs such as anabolic steroids or injections of human growth hormone or erythropoietin. Or third, you can



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take a safer approach and use your diet to orchestrate some very powerful hormonal responses from your body with dietary endocrinology."

AN IDEAL MEAL

So what is an example of a meal in the "perfect" diet, according to Sears? Such a meal might consist of a 4 oz. chicken breast (roughly the size of your palm), a cup of cooked broccoli, a small salad with oil and vinegar dressing, an apple, and a glass of water, decaffeinated coffee or sugar-free soda. Not exactly a radical meal, but its composition meets the 40-30-30 guidelines set by Sears' program.

"The main thing is consistency," says Sears. "You can't eat one ideal meal and then turn around and have a terrible one, then eat another good one, and expect to feel a difference. You want your body to be at its biochemical peak at all times, not just when it's convenient. It isn't a part-time endeavor. It takes discipline."

"But once you get going, you will definitely feel a noticeable difference. For most of the people I've worked with, it only takes a few days to recognize the positive changes in their bodies."

A DISSENTING VIEW

Nancy Clark, MS, RD, a nationally-respected nutritionist at Sports Medicine Brookline in Brookline,

Massachusetts, and author of *Nancy Clark's Sports Nutrition Guidebook* (Leisure Press) is not at all convinced, however, that Dr. Sears' theory is all it's cracked up to be.

"I'm a big believer in moderation," said Clark. "It's a big mistake for anyone to avoid fat. In that sense I don't think [Sears'] recommendation of 30 percent calories from fat is too far off, though I usually recommend 25 percent."

"But I just don't think 40 percent of total calories from carbohydrate is enough. I don't think [Sears] can effectively show how that's going to make a positive impact on performance."

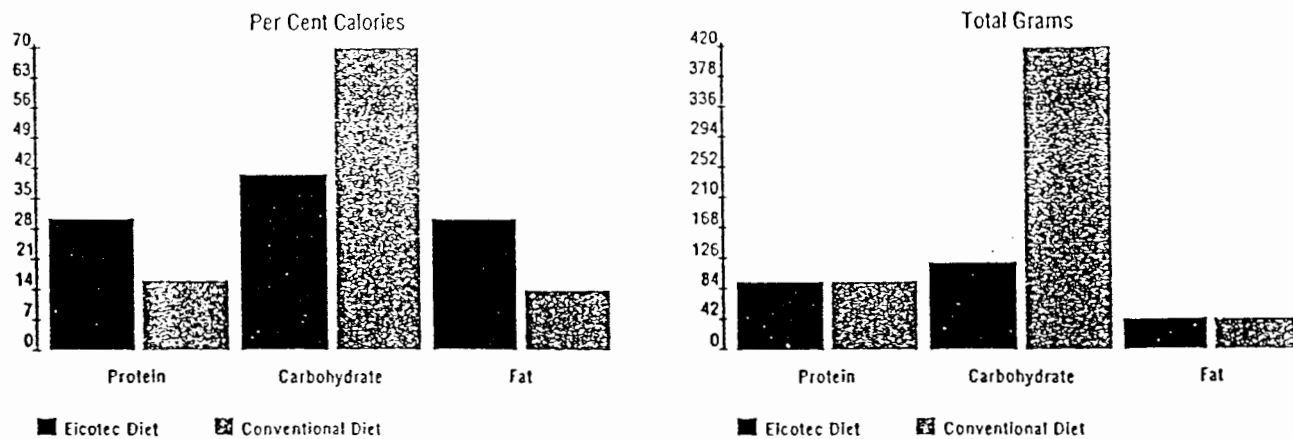
"What I'd like to see is research. Anyone can prove something anecdotally. What's helpful to one person can be harmful to another. Until you really investigate it thoroughly, you can't be sure what kind of an effect it might have."

Sears has learned to accept such criticism.

"I agree that we need to generate more research," he said. "In fact, we have clinical trials, administered by independent researchers, under way at this time in addition to our own studies."

"Fortunately, there are coaches like Skip Kenney and Richard Quick out there who are willing to innovate and try new approaches to get more out of their athletes. They had the courage to challenge the status quo. And

EICOTEC DIET -vs- CONVENTIONAL DIET FOR ATHLETES



In conventional diets recommended for athletes, up to 70% of the calories are in the form of carbohydrates, with only 15% of calories coming from protein and another 15% coming from fat. In contrast, Dr. Sears' Eicotec diet has 40% carbohydrates and 30% each of protein and fat. However on the Eicotec diet, athletes are continually able to tap into their stored body fat for energy, meaning that caloric intake can be reduced by approximately 50% without affecting optimal physical performance. As a result, an Eicotec diet of 1200 calories per day would supply the same total amount of protein and fat as 2400 calories per day on the conventional diet for athletes. The amount of dietary carbohydrate is dramatically reduced because the athlete is now using stored body fat for the required extra energy.

that's why it's no coincidence in my mind that they run the top swimming program in the world.

"You can't question that we have to re-examine constantly what should constitute an athlete's diet. If you want to improve the way your body performs, you should be interested in innovative science."

Indeed, some of the latest research on elite level athletes and their diets already indicates that Sears is onto something.

SMART SCIENCE

"The guidelines that Barry Sears is recommending are actually more in line with what our latest research shows elite-level athletes are eating," says Dr. Ann Grandjean, chief nutritional consultant to the U.S.

CREATING YOUR OWN SCIENTIFIC MENU

If you'd like to try the Eicotec diet by Dr. Barry Sears, remember that every meal should contain the appropriate 4:3 ratio between carbohydrate and protein. A typical meal might consist of 40 grams of carbohydrate and 30 grams of protein. Create your own meals from the sample lists of foods below.

CARBOHYDRATE SOURCES

ITEM	SERVING SIZE	CARBOHYDRATES
Apple	1 each	18 g.
Asparagus (cooked)	1 cup	8 g.
Broccoli (cooked)	1 cup	23 g.
Grapefruit	1 each	18 g.
Grapes	1 oz.	16 g.
Green beans (cooked)	1 cup	10 g.
Kidney beans (cooked)	1 cup	40 g.
Mushrooms	1 cup	6 g.
Oatmeal (dry)	1 oz.	16 g.
Orange	1 each	16 g.
Peach	1 each	12 g.
Pear	1 each	24 g.
Peas (cooked)	1 cup	25 g.
Pineapple	1 each	17 g.
Spinach (cooked)	1 cup	25 g.
Strawberries	1 cup	8 g.
Tomato	1 each	6 g.
Watermelon	1 cup	17 g.

LOW-FAT PROTEIN SOURCES

ITEM	SERVING SIZE	PROTEIN	CARBOHYDRATES
Beef, lean	4 oz.	29 g.	0 g.
Chicken breast, skinless	4 oz.	32 g.	0 g.
Cod	6 oz.	30 g.	0 g.
Cottage Cheese	1 cup	28 g.	8 g.
Milk, low fat	1 cup	8 g.	11 g.
Tofu	8 oz.	17 g.	5 g.
Tuna (water packed)	4 oz.	28 g.	0 g.
Turkey, white	4 oz.	33 g.	0 g.
Yogurt, plain	1 cup	9 g.	12 g.

Olympic Committee and Executive Director of the International Center for Sports Nutrition in Omaha, Nebraska. "The nutrient intake of these athletes appears to be closer to what Dr. Sears has to say than the 70

Nutritionist Nancy Clark takes a traditional view, believing that an athlete's meals should consist of 55-70% carbohydrates.



percent carbohydrate diets that are most often recommended.

"Having said that," she argues, "the response I would anticipate is 'sure, that's what research says, but just because these athletes are eating that way doesn't mean it's right.' In other words, maybe a person like Carl Lewis could eat sawdust and still be one of the fastest men in the world, just because he's so naturally talented.

"No matter what you believe, the goal of sports nutrition should be to find what dietary parameters will enhance performance. While Barry Sears' theory hasn't been proven yet, it's obviously worth a closer look. I'd like to see some more clinical trials initiated. It's just not smart science to turn away from an idea that might really work."

THE POWERS WITHIN

Sears emphasizes that the primary reason for developing this dietary technology was not to make better athletes, but to treat cardiovascular disease. Initial clinical results with these types of patients reportedly are even more encouraging than the early results on the enhancement of athletic performance.

"It's really amazing, when you begin to comprehend the powers within the human body," concludes Sears. "It's equally amazing when you consider how much of this potential is controlled by what you put in your mouth.

"The answer is right under every athlete's nose, if he or she just decides to commit himself or herself to a dietary strategy. There's no telling how much a person can improve, and eventually come close to their maximum genetic potential as an athlete." □

Dr. Barry Sears is the president of Surfactant Technologies, Inc. (STI), a biotechnology firm located in Marblehead, MA. Eicotec Foods is a wholly owned subsidiary of STI. A former research scientist at the Boston University School of Medicine and the Massachusetts Institute of Technology, Dr. Sears is a leading authority on drug delivery systems and the dietary control of hormonal response. Dr. Sears holds 12 U.S. patents in the areas of intravenous drug delivery systems and hormonal modulation.



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Stanford's Secret Weapon

New nutrition program lifts Cardinal swimmers
to record-breaking year.

Phillip Whitten, Ph.D.

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By Phil Whitten

Photos by Rod Searcey



What a year 1992 was for Stanford swimming!

From the Olympic trials in early March, through the national long course championships in August, Cardinal swimmers left an indelible mark on the sport with some of the most dominant team and individual performances in recent history. In fact, both men's head coach Skip Kenney and women's head coach Richard Quick readily admit their teams' combined accomplishments exceeded their highest expectations.

"We had a talented group of athletes, and we knew we had the potential to have a great year, but what the teams actually accomplished in 1992 was way beyond anything Richard and I might have expected," said Kenney.

To put things into perspective, consider:

- At the Olympic trials in Indianapolis, six Stanford-trained swimmers qualified for the Olympic team.

- Less than two weeks later, the Stanford women's team claimed its third NCAA title by outpointing Texas 735.5-651 at the NCAA championships in Austin.

- The following week, five American records and a sweep of all relay events helped the Stanford men snap Texas' four-year hold on the NCAA crown with the highest point total in meet history (632).

- When the Olympic Games rolled around, the Stanford athletes earned seven individual medals, nearly one-third the total haul of individual

medals by American swimmers, and only one fewer than the entire reunited German team. Factoring relay events into the equation, the Stanford athletes took home eight gold medals.

Throughout the course of the year, they broke two world records and smashed numerous American and collegiate marks. And don't forget that two of the most widely publicized stories generated from the sport last summer—Pablo Morales' stunning comeback to claim an Olympic gold medal at age 27, and Angie Wester-Krieg's successful bid to become the oldest woman ever to make the U.S. Olympic swimming team—were also launched from Deguerre Pool in Palo Alto.

The Secret Of Success

In the afterglow of that dream season, Kenney and Quick are often asked, "What was the secret?"

Interestingly, both Quick and Kenney point to a nutrition program developed by Dr. Barry Sears of Marblehead, Mass., as one key factor.

"I think the total nutrition program was a key because that's really the only thing we did differently from what we had done in earlier years," said Quick. "I can't put my finger on any one thing that would have influenced such an overall improvement in team performance other than the nutrition program outlined by Dr. Sears."

Added Kenney: "Richard and I have been coaching for roughly 25 years now, and in that amount of time you develop tendencies with your pro-

gram that you're comfortable with. You just don't make big changes in a program that's been successful and your athletes are comfortable with.

"But we've added a new element that seems to enhance everything else we do. There's no doubt in my mind that this approach to nutrition has made a positive impact on our team performance, from top to bottom."

The nutrition program is based on the knowledge that the consumption of foods cause hormonal responses within the body—some good and others bad. By carefully controlling the composition of food you eat, you can, in principle, control these hormonal responses, which trigger positive adaptive changes within the body.

The net results can include increased lean body (muscle) mass, enhanced cardiovascular endurance, fat loss, improved recovery between workouts, reduced fatigue, decreased hunger, and improved mental alertness. "This system is purely nutritional, it's not a drug," said Sears, a former research scientist at MIT and the Boston University School of Medicine. "But the important thing is to treat food as if it were a drug. You have to be consistent, controlling the composition of every meal you eat to create the optimal hormonal responses from your body."

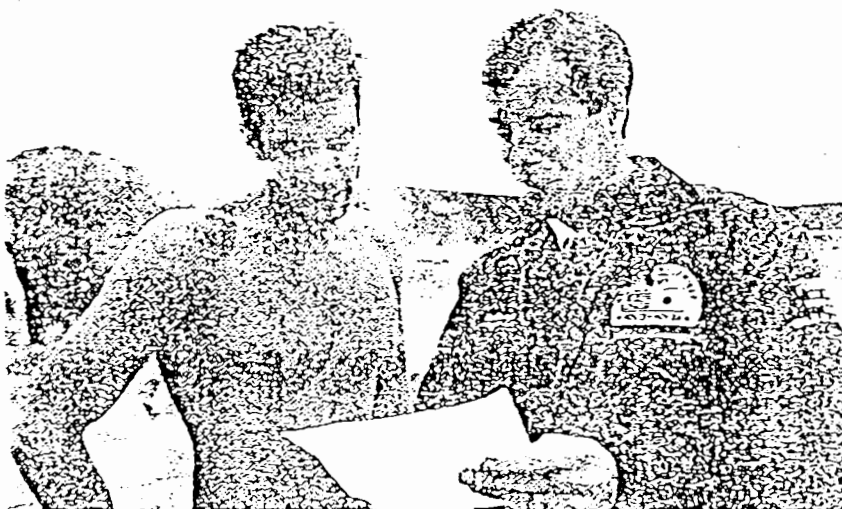
Sears, who holds 12 U.S. patents and is a leading expert on drug delivery technology, actually developed the program for use in treating cardiovascular disease. During the 10 years he spent developing the program, he discovered its potential value among elite level athletes.

The program differs considerably from most sports performance diets that emphasize high levels of carbohydrate and limited amount of fat. The diet is a protein-adequate, low-calorie, low-fat program containing an exact ratio of 40 percent carbohydrate, 30 percent protein and 30 percent fat. Stanford is the only swimming team using the program today. (For more information on the scientific basis for Sears' theory, see "Carbo Wars" in the March/April issue of SWIM

Magazine.

In order to help the Stanford athletes maintain this controlled ratio of nutrients, they ate nutrition bars, which were used as meal replacements and/or training supplements. They also took supplements of activated essential fatty acids, found only in human breast milk, to further improve their performance. Finally, they were given an outline of sample meals that provide the nutritional balance the Stanford swimmers required.

"Some of the meals you eat are 'different' to say the least," noted Sears. "For example, a lot of swim-



Above: Pablo Morales (left) and Stanford men's coach, Skip Kenney

mers like to eat oatmeal for breakfast, and that's great. But to make that a perfectly balanced meal, have a serving of cottage cheese or tuna fish with the oatmeal, in order to introduce the appropriate amount of protein and maintain the right ratio. Or if you don't like oatmeal, you can have cottage cheese and an apple."

Controlling Hormones

By maintaining a consistent ratio of nutrients in the diet, Sears contends you can control those hormonal systems which are 100 percent under dietary control. The main targets in this regard are the paired hormones, insulin and glucagon, and the most powerful of all hormonal systems, eicosanoids.

The ratio of insulin to glucagon—which changes depending on the composition of a meal—can influence a

**Opposite page:
Stanford's women's
head coach, Richard
Quick**



Kenney (above, speaking with Allan Young) noticed improved recovery and performance in his own workouts as a result of the nutrition program.

Quick (below, with Summer Sanders) said his swimmers aren't as fatigued and are able to have consistently solid workouts.



significantly affect athletic performance. This ratio is controlled exclusively by the ratio of protein to carbohydrate in the diet.

Glucagon is the hormone that causes the release of stored glycogen from the liver. It also releases fats from fatty tissue where energy is stored. By increasing the level of glucagon in the body, Sears says you can burn stored fat (instead of stored carbohydrate) for energy, which significantly improves endurance capacity, alleviates muscle fatigue, and reduces the level of fat stored in your body. Sustaining high levels of insulin—the result of a high-carbohydrate diet—can cause converse reactions, such as increased sluggishness, muscle soreness and elevated body fat.

"The important thing to realize is that the protein in your diet will promote glucagon release, and carbohydrate will trigger insulin release," explained Sears. "So in this regard, an athlete who is into 'carbo-loading' is essentially doing everything he or she can do to guarantee a reduced performance."

"Carbohydrate is important; don't get me wrong. It's the only source of energy for the brain. It's an important element of the diet, but the body performs most efficiently when carbohydrate accounts for 40 percent of the

balance, 20 percent protein and 30 percent fat.

"Much of this increase in efficiency comes from the effect the correct glucagon-to-insulin balance has on eicosanoid formation. Eicosanoids, which come from dietary fat, are the true power houses that drive athletic performance. The key is to make more good eicosanoids and fewer bad eicosanoids. The favorable glucagon-to-insulin ratio will achieve that goal."

It Works

When they first heard Sears' unique approach to nutrition several years ago, Kenney and Quick were both skeptical. However, after a laboratory analysis of Sears' products confirmed they were indeed non-pharmaceutical foods and safe to use, both coaches decided to test the program on themselves.

"I began to notice things in my own workouts, in terms of improved recovery and performance, that were almost amazing," said Kenney. "I found myself doing the types of workouts I hadn't been able to do in quite some time."

From that point, Quick and Kenney slowly began introducing the program to their swimmers.

"We first used the products with the athletes during the summer a few years ago," said Quick. "We were very pleased with the results; but, what was most interesting was the way the nutrition approach helped those athletes hold their tapers so effectively. We had some people who went from nationals over to Japan and then all the way back for a meet in Atlanta the following week. And they swam very well, even after the point when most effects of a taper ordinarily wear off."

After that initial experiment, Quick and Kenney have increased the nutritional focus in the Stanford program to the point where, last year, every member of the team was encouraged to conform to the dietary parameters outlined by Dr. Sears.

Both Quick and Kenney agree that the swimmers who adhere closely with the diet show visible differences in the pool.

"I noticed that the athletes who followed the program to the letter demonstrated positive effects in a number of ways," said Quick. "For one, the recovery time between workouts is reduced. They aren't as fatigued and they're able to have consistently solid practices, one after the other. That allows us to focus on more quality workouts. That, in turn, has a number of positive effects. Their overall strength levels improve, they become leaner, and they can hold a taper longer than they could before."

In fact, Kenney points to this ability to extend the effects of their taper as the key to Stanford's success last spring.

"With the Olympic trials so close to NCAAAs, we couldn't taper twice," said Kenney. "I think we were the only team that was able to swim real well at both meets, and that's because we held the effects of the taper so long. That was a big part of winning NCAAAs last year."

Jenny Thompson

One of the athletes Quick singles out as a close follower of the program is Jenny Thompson, who smashed the six-year-old world record in the 100 meter freestyle with a time of 54.48 at the Olympic trials in March, and set an American record five days later in the 50 freestyle with a time of 25.20. Swimming at the NCAA Championships several weeks later, she destroyed the American record in the 100 yard free with an astounding time of 47.61.

In Barcelona, Thompson earned a silver medal in the 100 freestyle, and two gold medals as the anchor of the 400 meter medley and 400 meter freestyle relays.

Thompson was recognized as one of the nation's top freestylers during her high school years in Dover, N.H. However, her times seemed to plateau, and during her senior year, she expressed her frustration to Quick, who had recruited her to swim at

Stanford the following year. Quick, in turn, suggested that Thompson make the short trip from New Hampshire to Marblehead, Mass., to visit Dr. Sears and explore how the program might

help her.

"When I first saw Jenny, we did the usual body measurements, and discovered that her percentage of body fat was somewhere up around 20 percent," described Sears. "Though that's very good for most women, it's too high for a world-class swimmer."

"So we started her on the program, and two months later we found she had dropped to under 13 percent. By the time the Olympic trials came around she was in absolutely tremendous shape. We knew she was ready for some fast swims."

Indeed, she shaved over a full second from her best time in the 100, an improvement Thompson called "incredible," considering she was already competitive on the global level.

In fact, Quick says Thompson's dramatic performances have not only earned acclaim, but also aroused suspicion among certain members of the international swimming community.

"When I got to Barcelona, I heard from a number of different people that others believe Jenny Thompson must have been doing something illegal to swim the way she



Jenny Thompson (above) was a close follower of the program. Last year she smashed the world record in the 100 meter free.

Quick (below, with Mary Ellen Blanchard) led his Stanford women to the collegiate championship last year.



STI 944

saying there was no way she could have gone as fast as she did without drugs. Everyone knew the record she broke was a steroid record (54.73 by East Germany's Kristin Otto), and they thought Jenny had to be using steroids to beat that time. But I can absolutely guarantee that wasn't the case. It was the dietary program outlined by Dr. Sears."

Human Growth Hormone

Sears said stories like that don't surprise him. The reason is that one of the hormones that are indirectly affected by this nutrition program is HGH—human growth hormone. By keeping the levels of good eicosanoids elevated, you maximize the natural secretion of growth hormone in response to intense training. As a result, you can realize body changes like increased muscle mass—the desired effect of using anabolic-androgenic steroids—simply by carefully controlling the diet.

"I've had athletes, including a

formerly using steroids, start to use this program and suddenly their muscles are stronger," claimed Sears. "And that's because human growth hormone has greater effects on strength than do anabolic steroids. Furthermore, there aren't any negative side effects with this nutrition program because it's 100 percent natural."

Angie And Pablo

Quick also mentioned Dr. Sears' program as an integral part of Angie Wester-Krieg's impressive performances last summer.

"Here was a person who had tried to make the (Olympic) team three times before, but hadn't," said Quick. "Now, at an age well past the age most people think women swimmers are past their prime, Angie not only makes the Olympic team, but she does her lifetime best four swims in a row. Then she comes back from Spain and wins her first national titles.

"I know, theoretically, an athlete doesn't reach his or her aerobic potential until after age 30, but something made a profound physical and psychological impact on Angie to have her perform that well."

Kenney expanded on the positive psychological impact he feels is associated with the program, and said it played an important role in Pablo Morales' comeback.

"I think it helped Pablo's comeback, because after three years out of the water, he came back a little soft, and he had a lot to accomplish in a short amount of time," said Kenney. "But after several weeks he came right back into shape and could look in the mirror and say, 'Hey, I am back, I am a swimmer again.' That gave him a mental spark that told him everything was within his reach.

"By the time he went to the Olympic Games, his body was more chiseled than I had ever seen it. Was eating oatmeal and cottage cheese for breakfast what did it for him? Who can say? But he won his gold medal by 3-hundredths, and I'd rather be 3-hundredths ahead and wondering what



Coach Quick believes that Stanford's nutrition program played an integral part in the success of Olympian Angie Wester-Krieg.

got me there than 3-hundredths behind, wondering what more I could have done."

Improving On '92

Though by most accounts, improving on their 1992 team performance will be a tall goal for Stanford, Kenney, Quick and Sears are convinced it is within reach. Dr. Sears has already been out to Palo Alto once this season, and he claims to have refined the program and products to an even greater level of sophistication.

"The nice thing about it is that everyone can benefit equally," said Kenney. "We didn't have everyone make the Olympic team last year, but we had everyone swim well. And in this sport, that's rare.

"It used to be that during a given season, you'd see the cream rise by the end of the year. A good approach to nutrition allows everyone on the team to tap into their potential and be a part of that. You can't tell where your next great swim will come from." ■



Coach Kenney cites the positive psychological impact the nutrition program had in Pablo Morales' comeback.

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Dr. Barry Sears is the president of Surfactant Technologies, Inc. (STI), a biotechnology firm located in Marblehead, MA. Eicotec Foods is a wholly owned subsidiary of STI. A former research scientist at the Boston University School of Medicine and the Massachusetts Institute of Technology, Dr. Sears is a leading authority on drug delivery systems and the dietary control of hormonal response. Dr. Sears holds 12 U.S. patents in the areas of intravenous drug delivery systems and hormonal modulation.



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